

- 1 -

SEQUENCE LISTING

5 <110> Matthias Krause
Antonio S. Sechi
Frank B. Gertler
Jürgen Wehland

<120> Methods for Altering T-Cell and Macrophage Activation

10 <130> M0656/7065

<150> US 60/194,215
<151> 2000-04-03

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<170> FastSEQ for Windows Version 3.0

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Gln Ala Arg Lys Asn Leu Phe Asn Asn Gln Gly Asn Ala Ser Pro Pro
35 40 45

40 Ala Gly Pro Ser Asn Val Pro Lys Phe Gly Ser Pro Lys Pro Pro Val
50 55 60
Ala Val Lys Pro Ser Ser Glu Glu Lys Pro Asp Lys Glu Pro Lys Pro
65 70 75 80
Pro Phe Leu Lys Pro Thr Gly Ala Gly Gln Arg Phe Gly Thr Pro Ala
85 90 95

45 Ser Leu Thr Thr Arg Asp Pro Glu Ala Lys Val Gly Phe Leu Lys Pro
100 105 110
Val Gly Pro Lys Pro Ile Asn Leu Pro Lys Glu Asp Ser Lys Pro Thr
115 120 125

50 Phe Pro Trp Pro Pro Gly Asn Lys Pro Ser Leu His Ser Val Asn Gln
130 135 140
Asp His Asp Leu Lys Pro Leu Gly Pro Lys Ser Gly Pro Thr Pro Pro
145 150 155 160
Thr Ser Glu Asn Glu Gln Lys Gln Ala Phe Pro Lys Leu Thr Gly Val
165 170 175

55 Lys Gly Lys Phe Met Ser Ala Ser Gln Asp Leu Glu Pro Lys Pro Leu
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Phe Pro Lys Pro Ala Phe Gly Gln Lys Pro Pro Leu Ser Thr Glu Asn
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| | Leu | Pro | Phe | Pro | Gly | Val | Val | Leu | Lys | Pro | Ala | Ala | Ser | Arg | Gly | Gly |
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| | Leu | Gly | Leu | Ser | Lys | Asn | Gly | Glu | Glu | Lys | Lys | Glu | Asp | Arg | Lys | Ile |
| 10 | | | | | 275 | | | | | 280 | | | | 285 | | |
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| | Ala | Ser | Gly | Thr | Pro | Pro | Ala | Arg | Phe | Pro | Lys | Ala | Pro | Ser | Lys | Leu |
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| 15 | Thr | Val | Gly | Gly | Pro | Trp | Gly | Gln | Ser | Gln | Glu | Lys | Glu | Lys | Gly | Asp |
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| | Lys | Asn | Ser | Ala | Thr | Pro | Lys | Gln | Lys | Pro | Leu | Pro | Pro | Leu | Phe | Thr |
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| | Leu | Gly | Pro | Pro | Pro | Pro | Lys | Pro | Asn | Arg | Pro | Pro | Asn | Val | Asp | Leu |
| 20 | | | | | 355 | | | | | 360 | | | | 365 | | |
| | Thr | Lys | Phe | His | Lys | Thr | Ser | Ser | Gly | Asn | Ser | Thr | Ser | Lys | Gly | Gln |
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| 25 | Ala | Ser | Gln | Pro | Pro | Leu | Pro | Ala | Ser | His | Pro | Ser | Gln | Pro | Pro | Val |
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| | Pro | Ser | Leu | Pro | Pro | Arg | Asn | Ile | Lys | Pro | Pro | Phe | Asp | Leu | Lys | Ser |
| | | | | 420 | | | | | | 425 | | | | 430 | | |
| | Pro | Val | Asn | Glu | Asp | Asn | Gln | Asp | Gly | Val | Thr | His | Ser | Asp | Gly | Ala |
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| | Gly | Asn | Leu | Asp | Glu | Glu | Gln | Asp | Ser | Glu | Gly | Glu | Thr | Tyr | Glu | Asp |
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| | Ile | Glu | Ala | Ser | Lys | Glu | Arg | Glu | Lys | Lys | Arg | Glu | Lys | Glu | Glu | Lys |
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| 35 | Lys | Arg | Leu | Glu | Leu | Glu | Lys | Lys | Glu | Gln | Lys | Glu | Lys | Glu | Lys | Lys |
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| | Glu | Gln | Glu | Ile | Lys | Lys | Lys | Phe | Lys | Leu | Thr | Gly | Pro | Ile | Gln | Val |
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| | Asn | Pro | Glu | Gly | Lys | Trp | Leu | Gly | Arg | Thr | Ala | Arg | Gly | Ser | Tyr | Gly |
| | 545 | | | | | 550 | | | | | 555 | | | | | 560 |
| 45 | Tyr | Ile | Lys | Thr | Thr | Ala | Val | Glu | Ile | Asp | Tyr | Asp | Ser | Leu | Lys | Leu |
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| | Lys | Lys | Asp | Ser | Leu | Gly | Ala | Pro | Ser | Arg | Pro | Ile | Glu | Asp | Asp | Gln |
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| | Glu | Val | Tyr | Asp | Asp | Val | Ala | Glu | Gln | Asp | Asp | Ile | Ser | Ser | His | Ser |
| 50 | | | | 595 | | | | | | 600 | | | | 605 | | |
| | Gln | Ser | Gly | Ser | Gly | Gly | Ile | Phe | Pro | Pro | Pro | Pro | Asp | Asp | Asp | Ile |
| | 610 | | | | | | 615 | | | | | | 620 | | | |
| | Tyr | Asp | Gly | Ile | Glu | Glu | Glu | Asp | Ala | Asp | Asp | Gly | Phe | Pro | Ala | Pro |
| | 625 | | | | | 630 | | | | | 635 | | | | | 640 |
| 55 | Pro | Lys | Gln | Leu | Asp | Met | Gly | Asp | Glu | Val | Tyr | Asp | Asp | Val | Asp | Thr |
| | | | | | 645 | | | | | 650 | | | | | 655 | |
| | Ser | Asp | Phe | Pro | Val | Ser | Ser | Ala | Glu | Met | Ser | Gln | Gly | Thr | Asn | Phe |
| | | | | 660 | | | | | 665 | | | | | 670 | | |
| | Gly | Lys | Ala | Lys | Thr | Glu | Glu | Lys | Asp | Leu | Lys | Lys | Leu | Lys | Lys | Gln |

55

tatgatgata ttgctgatgg ctgcattctat gacaatgact agcactcaac tttggtcatt 2400

<210> 4
<211> 829
<212> PRT
<213> Homo sapiens

<400> 4

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| | 1 | | | | 5 | | | | 10 | | | | | 15 | | |
| | Asn | Ser | Arg | Pro | Phe | Arg | Val | Thr | Gly | Pro | Asn | Ser | Ser | Ser | Gly | Ile |
| | | | | 20 | | | | | 25 | | | | | 30 | | |
| | Gln | Ala | Arg | Lys | Asn | Leu | Phe | Asn | Asn | Gln | Gly | Asn | Ala | Ser | Pro | Pro |
| | | | | 35 | | | | 40 | | | | | 45 | | | |
| 15 | Ala | Gly | Pro | Ser | Asn | Val | Pro | Lys | Phe | Gly | Ser | Pro | Lys | Pro | Pro | Val |
| | 50 | | | | | | 55 | | | | | 60 | | | | |
| | Ala | Val | Lys | Pro | Ser | Ser | Glu | Glu | Lys | Pro | Asp | Lys | Glu | Pro | Lys | Pro |
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| | Pro | Phe | Leu | Lys | Pro | Thr | Gly | Ala | Gly | Gln | Arg | Phe | Gly | Thr | Pro | Ala |
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| | Ser | Leu | Thr | Thr | Arg | Asp | Pro | Glu | Ala | Lys | Val | Gly | Phe | Leu | Lys | Pro |
| | | | | 100 | | | | | 105 | | | | | 110 | | |
| | Val | Gly | Pro | Lys | Pro | Ile | Asn | Leu | Pro | Lys | Glu | Asp | Ser | Lys | Pro | Thr |
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| 25 | Phe | Pro | Trp | Pro | Pro | Gly | Asn | Lys | Pro | Ser | Leu | His | Ser | Val | Asn | Gln |
| | 130 | | | | | | 135 | | | | | 140 | | | | |
| | Asp | His | Asp | Leu | Lys | Pro | Leu | Gly | Pro | Lys | Ser | Gly | Pro | Thr | Pro | Pro |
| | 145 | | | | | 150 | | | | | 155 | | | | 160 | |
| | Thr | Ser | Glu | Asn | Glu | Lys | Gln | Ala | Phe | Pro | Lys | Leu | Thr | Gly | Val | |
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| | Lys | Gly | Lys | Phe | Met | Ser | Ala | Ser | Gln | Asp | Leu | Glu | Pro | Lys | Pro | Leu |
| | | | | 180 | | | | | 185 | | | | | 190 | | |
| | Phe | Pro | Lys | Pro | Ala | Phe | Gly | Gln | Lys | Pro | Pro | Leu | Ser | Thr | Glu | Asn |
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| 35 | Ser | His | Glu | Asp | Glu | Ser | Pro | Met | Lys | Asn | Val | Ser | Ser | Ser | Lys | Gly |
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| | Ser | Pro | Ala | Pro | Leu | Gly | Val | Arg | Ser | Lys | Ser | Gly | Pro | Leu | Lys | Pro |
| | 225 | | | | | 230 | | | | | 235 | | | | 240 | |
| | Ala | Arg | Glu | Asp | Ser | Glu | Asn | Lys | Asp | His | Ala | Gly | Glu | Ile | Ser | Ser |
| 40 | | | | | 245 | | | | | 250 | | | | | 255 | |
| | Leu | Pro | Phe | Pro | Gly | Val | Val | Leu | Lys | Pro | Ala | Ala | Ser | Arg | Gly | Gly |
| | | | | 260 | | | | | 265 | | | | | 270 | | |
| | Leu | Gly | Leu | Ser | Lys | Asn | Gly | Glu | Glu | Lys | Lys | Glu | Asp | Arg | Lys | Ile |
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| 45 | Asp | Ala | Ala | Lys | Asn | Thr | Phe | Gln | Ser | Lys | Ile | Asn | Gln | Glu | Glu | Leu |
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| | Ala | Ser | Gly | Thr | Pro | Pro | Ala | Arg | Phe | Pro | Lys | Ala | Pro | Ser | Lys | Leu |
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| | Thr | Val | Gly | Gly | Pro | Trp | Gly | Gln | Ser | Gln | Glu | Lys | Glu | Lys | Gly | Asp |
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| | Lys | Asn | Ser | Ala | Thr | Pro | Lys | Gln | Lys | Pro | Leu | Pro | Pro | Leu | Phe | Thr |
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| | Leu | Gly | Pro | Pro | Pro | Pro | Lys | Pro | Asn | Arg | Pro | Pro | Asn | Val | Asp | Leu |
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| 55 | Thr | Lys | Phe | His | Lys | Thr | Ser | Ser | Gly | Asn | Ser | Thr | Ser | Lys | Gly | Gln |
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| | Thr | Ser | Tyr | Ser | Thr | Thr | Ser | Leu | Pro | Pro | Pro | Pro | Pro | Ser | His | Pro |
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| | Ala | Ser | Gln | Pro | Pro | Leu | Pro | Ala | Ser | His | Pro | Ser | Gln | Pro | Pro | Val |

| | | | | | | | | | | | | | | | | |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
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| | Pro | Ser | Leu | Pro | Pro | Arg | Asn | Ile | Lys | Pro | Pro | Phe | Asp | Leu | Lys | Ser |
| | | | | 420 | | | | | 425 | | | | | 430 | | |
| 5 | Pro | Val | Asn | Glu | Asp | Asn | Gln | Asp | Gly | Val | Thr | His | Ser | Asp | Gly | Ala |
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| | Gly | Asn | Leu | Asp | Glu | Glu | Gln | Asp | Ser | Glu | Gly | Glu | Thr | Tyr | Glu | Asp |
| | | 450 | | | | | 455 | | | | | 460 | | | | |
| | Ile | Glu | Ala | Ser | Lys | Glu | Arg | Glu | Lys | Lys | Arg | Glu | Lys | Glu | Glu | Lys |
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| 10 | Lys | Arg | Leu | Glu | Leu | Glu | Lys | Lys | Glu | Gln | Lys | Glu | Lys | Glu | Lys | Lys |
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| | Glu | Gln | Glu | Ile | Lys | Lys | Lys | Phe | Lys | Leu | Thr | Gly | Pro | Ile | Gln | Val |
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| 15 | Ile | His | Leu | Ala | Lys | Ala | Cys | Cys | Asp | Val | Lys | Gly | Gly | Lys | Asn | Glu |
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| | Leu | Ser | Phe | Lys | Gln | Gly | Glu | Gln | Ile | Glu | Ile | Ile | Arg | Ile | Thr | Asp |
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| | Asn | Pro | Glu | Gly | Lys | Trp | Leu | Gly | Arg | Thr | Ala | Arg | Gly | Ser | Tyr | Gly |
| | 545 | | | | | 550 | | | | | 555 | | | | 560 | |
| 20 | Tyr | Ile | Lys | Thr | Thr | Ala | Val | Glu | Ile | Asp | Tyr | Asp | Ser | Leu | Lys | Leu |
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| | Lys | Lys | Asp | Ser | Leu | Gly | Ala | Pro | Ser | Arg | Pro | Ile | Glu | Asp | Asp | Gln |
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| 25 | Glu | Val | Tyr | Asp | Asp | Val | Ala | Glu | Gln | Asp | Asp | Ile | Ser | Ser | His | Ser |
| | | | 595 | | | | | 600 | | | | | 605 | | | |
| | Gln | Ser | Gly | Ser | Gly | Gly | Ile | Phe | Pro | Pro | Pro | Pro | Asp | Asp | Asp | Ile |
| | | 610 | | | | | 615 | | | | | 620 | | | | |
| | Tyr | Asp | Gly | Ile | Glu | Glu | Glu | Asp | Ala | Asp | Asp | Gly | Ser | Thr | Leu | Gln |
| | 625 | | | | | 630 | | | | | 635 | | | | 640 | |
| 30 | Val | Gln | Glu | Lys | Ser | Asn | Thr | Trp | Ser | Trp | Gly | Ile | Leu | Lys | Met | Leu |
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| | Lys | Gly | Lys | Asp | Asp | Arg | Lys | Lys | Ser | Ile | Arg | Glu | Lys | Pro | Lys | Val |
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| 35 | Ser | Asp | Ser | Asp | Asn | Asn | Glu | Gly | Ser | Ser | Phe | Pro | Ala | Pro | Pro | Lys |
| | | | 675 | | | | | 680 | | | | | 685 | | | |
| | Gln | Leu | Asp | Met | Gly | Asp | Glu | Val | Tyr | Asp | Asp | Val | Asp | Thr | Ser | Asp |
| | | 690 | | | | | 695 | | | | | 700 | | | | |
| | Phe | Pro | Val | Ser | Ser | Ala | Glu | Met | Ser | Gln | Gly | Thr | Asn | Phe | Gly | Lys |
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| 40 | Ala | Lys | Thr | Glu | Glu | Lys | Asp | Leu | Lys | Lys | Leu | Lys | Lys | Gln | Glu | Lys |
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| | Glu | Glu | Lys | Asp | Phe | Arg | Lys | Lys | Phe | Lys | Tyr | Asp | Gly | Glu | Ile | Arg |
| | | | | 740 | | | | | 745 | | | | | 750 | | |
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| | | | 755 | | | | | 760 | | | | | 765 | | | |
| | Gly | Thr | Arg | Asp | Leu | Gln | Val | Lys | Pro | Gly | Glu | Ser | Leu | Glu | Val | Ile |
| | | 770 | | | | | 775 | | | | | 780 | | | | |
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55 <210> 5
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 <212> DNA
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<400> 5

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| | acagaggatg | tctcagtcaa | tagccgaccc | ttcagagtca | cagggccaaa | ctcatcttca | 120 |
| | ggaatacaag | caagaaagaa | cttattcaac | aaccaaggaa | atgccagccc | tcctgcagga | 180 |
| 5 | cccagcaatg | tacctaagtt | tgggtcccca | aagccacctg | tggcagtcaa | accttcttct | 240 |
| | gagggaaaagc | ctgacaagga | acccaagccc | ccgtttctaa | agcccactgg | agcaggccaa | 300 |
| | agattcggaa | caccagccag | cttgaccacc | agagaccccg | aggcgaaagt | gggatttctg | 360 |
| | aaacctgtag | gccccaaagc | catcaacttg | cccaaagaag | attccaaacc | tacatttccc | 420 |
| | tggcctcctg | gaaacaagcc | atctcttcac | agtgtaaaacc | aagaccatga | cttaaagcca | 480 |
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| | cccaaattga | ctgggggttaa | agggaaattt | atgtcagcat | cacaagatct | tgaacccaag | 600 |
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| | gaagacgaaa | gccccatgaa | gaatgtgtct | tcataaaaag | ggtccccagc | tccccctggga | 720 |
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| | gccaggttcc | ctaaggcccc | ttctaagctg | acagtggggg | ggccatgggg | ccaaagtcag | 1020 |
| | gaaaaggaaa | agggagacaa | gaattcagcc | accccgaac | agaagccatt | gcctcccttg | 1080 |
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| 25 | ctagatgagg | aacaagacag | tgaaggagaa | acatatgaag | acatagaagc | atccaaagaa | 1440 |
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| | gaccaagaag | tatatgatga | tggtgcagag | caggatgata | ttagcagcca | cagtcagagt | 1860 |
| | ggaagtggag | ggatattccc | tccaccacca | gatgatgaca | tttatgatgg | gattgaagag | 1920 |
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| | gacatgggag | atgaagttta | cgatgatgtg | gatacctctg | atttcctctg | ttcatcagca | 2160 |
| | gagatgagtc | aaggaactaa | ttttggaaaa | gctaagacag | aagaaaaagga | ccttaagaag | 2220 |
| | ctaaaaaagc | aggaataaaga | agaaaaagac | ttcaggaaaaa | aattttaata | tgatggtgaa | 2280 |
| 40 | attagagtcc | tatatccaac | taaagttaca | acttccataa | cttctaaaaa | gtggggaacc | 2340 |
| | agagatctac | aggtaaaacc | tggtgaatct | ctagaagtta | tacaaaccac | agatgacaca | 2400 |
| | aaagttctct | gcagaaatga | agaagggaaa | tatgggttatg | tccttcggag | ttacctagcg | 2460 |
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<212> PRT

<213> Mus musculus

50

<400> 6

| | | | | | | | | | | | | | | | |
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| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Gly | Pro | Ala | Val | Gln | Gln | Asn | Ile | Pro | Ser | Asn | Leu | Leu | Gln | Asp | His |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Glu | Asn | Gln | Arg | Leu | Phe | Glu | Leu | Leu | Gly | Arg | Lys | Cys | Trp | Thr | Leu |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ala | Thr | Thr | Val | Val | Gln | Leu | Tyr | Leu | Ala | Leu | Pro | Pro | Gly | Ala | Glu |
| 50 | | | | | | 55 | | | | | 60 | | | | |

| Variable | Mean | SD | Min | Max | Skewness | Kurtosis | Normality |
|---------------------------|-------|------|------|-------|----------|----------|-----------|
| Age | 35.5 | 10.2 | 22 | 55 | 0.15 | -0.50 | 0.98 |
| Gender | 1.2 | 0.4 | 1 | 2 | -0.10 | -0.20 | 0.99 |
| Marital Status | 1.8 | 0.4 | 1 | 2 | -0.10 | -0.20 | 0.99 |
| Education | 12.5 | 1.5 | 9 | 16 | 0.20 | -0.40 | 0.97 |
| Income | 15000 | 5000 | 5000 | 30000 | 0.30 | -0.60 | 0.96 |
| Occupation | 2.5 | 0.5 | 1 | 3 | -0.10 | -0.20 | 0.99 |
| Health Status | 1.5 | 0.5 | 1 | 2 | -0.10 | -0.20 | 0.99 |
| Stress Level | 3.5 | 1.0 | 1 | 5 | 0.20 | -0.40 | 0.97 |
| Life Satisfaction | 4.0 | 1.0 | 1 | 5 | 0.10 | -0.30 | 0.98 |
| Resilience | 3.0 | 1.0 | 1 | 5 | 0.20 | -0.40 | 0.97 |
| Optimism | 3.5 | 1.0 | 1 | 5 | 0.10 | -0.30 | 0.98 |
| Emotional Stability | 3.0 | 1.0 | 1 | 5 | 0.20 | -0.40 | 0.97 |
| Self-Esteem | 3.5 | 1.0 | 1 | 5 | 0.10 | -0.30 | 0.98 |
| Life Purpose | 3.0 | 1.0 | 1 | 5 | 0.20 | -0.40 | 0.97 |
| Meaning in Life | 3.5 | 1.0 | 1 | 5 | 0.10 | -0.30 | 0.98 |
| Existential Well-being | 3.0 | 1.0 | 1 | 5 | 0.20 | -0.40 | 0.97 |
| Transcendental Well-being | 3.5 | 1.0 | 1 | 5 | 0.10 | -0.30 | 0.98 |
| Overall Well-being | 3.0 | 1.0 | 1 | 5 | 0.20 | -0.40 | 0.97 |

| | | | | | | | | | | | | | | | | |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | Ala | Asn | Cys | Ile | Thr | Ile | Asn | Pro | Asp | Ile | Ile | Phe | Ala | Ala | Thr | Asp |
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| | Ser | Glu | Asp | Ser | Ser | Leu | Asn | Thr | Asp | Glu | Trp | Glu | Glu | Glu | Lys | Thr |
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| 5 | Glu | Glu | Gln | Pro | Ser | Glu | Val | Asn | Thr | Gly | Pro | Arg | Tyr | Glu | Thr | Ala |
| | | 50 | | | | | 55 | | | | | 60 | | | | |
| | Arg | Glu | Val | Ser | Ser | Arg | Asp | Ile | Lys | Glu | Leu | Glu | Lys | Ser | Asn | Lys |
| | 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| | Val | Arg | Asn | Thr | Asn | Lys | Ala | Asp | Leu | Ile | Ala | Met | Leu | Lys | Glu | Lys |
| 10 | | | | | 85 | | | | | 90 | | | | | 95 | |
| | Ala | Glu | Lys | Gly | Pro | Asn | Ile | Asn | Asn | Asn | Ser | Glu | Gln | Thr | Glu | |
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| | Ile | Lys | Lys | Arg | Arg | Lys | Ala | Ile | Ala | Ser | Ser | Asp | Ser | Glu | Leu | Glu |
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| | Ser | Leu | Thr | Tyr | Pro | Asp | Lys | Pro | Thr | Lys | Val | Asn | Lys | Lys | Lys | Val |
| 20 | | | | | 165 | | | | | | 170 | | | | 175 | |
| | Ala | Lys | Glu | Ser | Val | Ala | Asp | Ala | Ser | Glu | Ser | Asp | Leu | Asp | Ser | Ser |
| | | | | 180 | | | | | 185 | | | | | 190 | | |
| | Met | Gln | Ser | Ala | Asp | Glu | Ser | Ser | Pro | Gln | Pro | Leu | Lys | Ala | Asn | Gln |
| | | | 195 | | | | | 200 | | | | | 205 | | | |
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| | Trp | Val | Arg | Asp | Lys | Ile | Asp | Glu | Asn | Pro | Glu | Val | Lys | Lys | Ala | Ile |
| | 225 | | | | | 230 | | | | | 235 | | | | 240 | |
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| | | | | 260 | | | | | 265 | | | | | 270 | | |
| | Glu | Leu | Arg | Leu | Ala | Leu | Pro | Glu | Thr | Pro | Met | Leu | Leu | Gly | Phe | Asn |
| | | | 275 | | | | | 280 | | | | | 285 | | | |
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| | | 290 | | | | | 295 | | | | | 300 | | | | |
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| | | | | 340 | | | | | 345 | | | | | 350 | | |
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| | | | 355 | | | | | 360 | | | | | 365 | | | |
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| | | 370 | | | | | 375 | | | | | 380 | | | | |
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| | 385 | | | | | 390 | | | | | 395 | | | | 400 | |
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| | Thr | Thr | Glu | Glu | Glu | Ile | Asp | Arg | Leu | Ala | Asp | Leu | Arg | Asp | Arg | Gly |
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| | | 450 | | | | | 455 | | | | | 460 | | | | |
| | Asp | Arg | Ala | Leu | Ile | Ser | Asp | Ile | Thr | Lys | Lys | Thr | Pro | Phe | Lys | Asn |
| | 465 | | | | | 470 | | | | | 475 | | | | 480 | |
| | Pro | Ser | Gln | Pro | Leu | Asn | Val | Phe | Asn | Lys | Lys | Thr | Thr | Thr | Lys | Thr |

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| | Ala | Gly | Pro | Ser | Ser | Met | Pro | Lys | Phe | Gly | Thr | Thr | Lys | Pro | Pro | Leu |
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| | Pro | Phe | Leu | Lys | Pro | Thr | Gly | Gly | Ser | Pro | Arg | Phe | Gly | Thr | Gln | Pro |
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| | Pro | Leu | Ser</ | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | |
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| | Ser | Leu | Lys | Arg | Lys | Lys | Asn | Ser | Leu | Asn | Ala | Val | Pro | Pro | Arg | Leu |
| | | | | | 565 | | | | | 570 | | | | | 575 | |
| 20 | Val | Glu | Asp | Asp | Gln | Asp | Val | Tyr | Asp | Asp | Val | Ala | Glu | Gln | Asp | Ala |
| | | | | 580 | | | | | 585 | | | | | 590 | | |
| | Pro | Asn | Ser | His | Gly | Gln | Ser | Gly | Ser | Gly | Gly | Met | Phe | Pro | Pro | Pro |
| | | | 595 | | | | | 600 | | | | | 605 | | | |
| | Pro | Thr | Asp | Asp | Glu | Ile | Tyr | Asp | Gly | Ile | Glu | Glu | Glu | Asp | Asp | Asp |
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| 25 | Asp | Gly | Ser | Val | Pro | Gln | Val | Asp | Glu | Lys | Thr | Asn | Ala | Trp | Ser | Trp |
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| | Gly | Ile | Leu | Lys | Met | Leu | Lys | Gly | Lys | Asp | Asp | Arg | Lys | Lys | Ser | Ile |
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| | Leu | Pro | Ser | Gln | His | Lys | Gln | Leu | Asp | Val | Gly | Glu | Glu | Val | Tyr | Asp |
| | | | 675 | | | | | 680 | | | | | 685 | | | |
| | Asp | Val | Asp | Ala | Ser | Asp | Phe | Pro | Pro | Pro | Pro | Ala | Glu | Met | Ser | Gln |
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| | Leu | Lys | Lys | Gln | Glu | Lys | Glu | Glu | Lys | Asp | Leu | Arg | Lys | Lys | Phe | Lys |
| | | | | | 725 | | | | | 730 | | | | | 735 | |
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| | | | | 740 | | | | | 745 | | | | | 750 | | |
| | Leu | Thr | Ser | Lys | Lys | Trp | Gly | Ala | Arg | Asp | Leu | Gln | Ile | Lys | Pro | Gly |
| | | | 755 | | | | | 760 | | | | | 765 | | | |
| | Glu | Ser | Leu | Glu | Val | Ile | Gln | Ser | Thr | Asp | Asp | Thr | Lys | Val | Leu | Cys |
| | | 770 | | | | | 775 | | | | | 780 | | | | |
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| | 785 | | | | | 790 | | | | | 795 | | | | | 800 |
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